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EXAMINER

MOORE, IAN N

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/701,865	Applicant(s) KUBLER ET AL.	
	Examiner IAN N. MOORE	Art Unit 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/20/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 4/14/09 have been fully considered but they are not persuasive.

Regarding claims 22-59, the applicant argued that, "...the proposed combination fails to teach, suggest or discloses... *"wherein the digital voice packets comprise destination information for routing the digital voice data packets"* as recited in claims 22,28, *"wherein the digital voice packets comprise destination information for routing the digital voice data packets through the communication network"* as recited in claim 29...*"wherein the digital voice data is packetized according to a packet protocol comprising destination information used for routing the digital voice data packetized according to the packet protocol through the communication network"* as recited in claim 36; *"wherein the digital voice packets comprise destination information for routing the digital voice data packets"* as recited in claim 47; *"wherein the digital voice packets comprise destination information for routing the digital voice data packets through the network...according to a packet protocol"* as recited in claim 51 ..." in pages 11-14, 24-26.

In response to applicant's argument, the examiner respectfully disagrees with the argument above since the combined system of Berken and Richter discloses the claimed invention as detailed below.

All the responses from the previous action to applicant's arguments on the same issue are hereby incorporated.

Berken discloses wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header/preamble of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN).

Richter teaches wherein the digital voice data packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see col. 6, line 60 to col. 7, line 20) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see col. 5, line 36-66; col. 6, line 44-56).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, the rejection is based on the combination of Berken and Richter, and one must consider the combined system as a whole. Thus, arguing on based a particular reference is clearly an error and invalid.

Regarding claims 22-59, the applicant argued that, "...the office has misinterpreted the language of applicant's claims...the term packet is reasonably be defined by as "*a unit of information transmitted as a whole from one device to another on a network*"...frame of Berken teaches applicants voice packet is clearly erroneous...the office does so without any authority for

the meaning of the term "packet"... **it is not necessary that the applicant's disclosure explicitly defined the term packet.** Thus, the use of the term packet and its definition is not an undisclosed limitation as asserted by the office...the term packet is claimed, and one of ordinary skill in the art at the time of the invention would have immediately and unquestionably recognized the term...applicant requests...citing the specific drawing elements and/or lines of text from Berken that are not consistent with applicants interpretation of Berken, along with an explanation of how and why Berken teaches what office asserts..." in pages 14-20, 24-26.

In response to applicant's argument, the examiner respectfully disagrees with the argument.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *a unit of information transmitted as whole from one device to another on a network*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In fact, neither applicant specification nor the broadly recites any specific definition of a packet. Thus, the argument based on unclaimed and undisclosed limitation is irrelevant.

In response to argument "*it is not necessary that the applicant's disclosure explicitly defined the term packet*", examiner a bit confused with applicant argument. At one instance, applicant repeatedly arguing that Berken reference does not teach "packet" and its equivalent definition of "*a unit of information transmitted as whole from one device to another on a network*", yet at another instance the applicant's specification does not even explain or recite

these limitations. Applicant admits this fact by stating "it is not necessary that the applicant's disclosure explicitly defined the term packet". Applicant expects the examiner to show the definition of the "packet" in Berken, where such definition is not even recited in the applicant specification. Thus, examiner maintains the assertion of Berken's frame as applicant voice packet.

In response to argument, the applicant admits on the record that such features "*a unit of information transmitted as a whole from one device to another on a network*" is well known in the art. Thus, it is clear that applicant is admitting on the record such feature is based on the well known facts which has no patentable distinction since event. In other word, if these new limitations were well known understood in one skill in the ordinary art, then clearly there is no patentable distinction from the prior art. Second, no where in the specification discloses such feature, and thus applicant has no possession at the time of the invention. Third, applicant provide no evidence "at the time of invention" on such definition is being used by the applicant. Thus, the arguments based on the new limitations that are not even disclosed in the claim, in the specification, or known in the art at the time of invention is irrelevant. Thus, it is clear the applicant is incorrectly and irrelevantly asserting of such "definition" in the argument.

In response to argument, examiner continue to assert the claimed "digital voice packet" as Berken "voice frame" terms, both "packet" and "frame" has identical functionality of packaging or framing digitized voice data into the form (i.e. packet or frame) for transmission.

The claimed recites, "Digital voice packets" as "a digital time slot/frame which contains packet preamble, packet header, packet information" since digital time slot/frame contains **all "packet" attributes that performs the packet functionality**. If a time frame/slot has a packet

attributes, it is clear that such a time slot/frame is clearly a packet. Moreover, both "packet" and "frame" has identical functionality of packaging or framing digitized voice data into the form (i.e. packet or frame) for transmission. Since they both have identical functionalities, they both are the same. Moreover, the combined system of Berken and Richter still discloses the "digitized voice data packet" as set forth above.

In response to applicant argument, examiner has clearly cited the specific drawing elements and/or lines of text from Berken and explain each assertion that maps to applicant broadly claimed invention in previous office action, and more explanation set forth above. Thus, there is no need for examiner to recite further the specific drawing elements and/or lines of text from Berken.

Regarding claims 22-59, the applicant argued that, "...the control time slot of the Berken is not part of the packet...the office suggests that "a voice time slot/packet" of Berken has a packet header/preamble that comprising "routing/transmission/sending information such as address, control information and signaling information.....application respectfully request that the office specifically identify where, how and why Berken teaches routing/transmitting/sending information such as address, control information and signaling information in the packet..." in pages 18-26.

In response to applicant's argument, the examiner respectfully disagrees with the argument.

In response to argument, on control time slot of Berken,

1) Examiner is not equating control packet to voice packet as argued by the application. Examiner is equating a frame that contains a control time slot and voice packet time slot (see

Berken FIG. 2-3) to applicant's voice packet that comprises control information for routing.

Berken FIG. 2 clearly shows that multiple time slots 1-M within a frame, which also confirms examiner's assertion stated above. Thus, applicant argument of "the voice time slot is not within a control time slot" is irrelevant and simply an error.

2) the claim recites, "digital voice packet...**comprises** destination information used for routing". Note that the phrase "comprise" is an open phrase and it does not require "destination information used for routing" to be "**within**", "**inside**", or "**consisting**". In other word, the phrase "comprises" is not the same as "**within**", "**inside**", or "**consisting**". Thus, the applicant argument on Berken not disclosing "destination information used for routing"

within/inside/consisting is also irrelevant since the rejection is based on the combined system of Berken and Richter.

In response to applicant argument, Applicant broadly claimed invention of "digital voice packets ...**comprise** destination information used for routing" is disclosed Berken in two alternate scenarios:

In first scenario, a digital voice frame that comprises a digital voice time slot and a control time slot (see FIG. 2), and the control time slot comprise routing/transmitting/sending information such as address, control information and signaling information of the digital voice data so that the digital voice packet is distinguished and recover at the receiving side, which is the fundamental concept of the wireless communication. Otherwise, it is impossible to recover the wireless" digital voice data, or

In second scenario, a voice time slot/packet that comprises a digital voice packet data/information and packet preamble/packet header (FIG. 4), and the packet header/preamble

comprise routing/transmitting/sending information such as address, control information and signaling information of the digital voice packet data/information so that the digital voice packet is distinguished and recover at the receiving side.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, the rejection is based on the combined system of Berken and Richter as detailed below.

Berken discloses wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame/packet; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN).

It is well known in the art packet header or bus control information routing/forwarding information through radio packet switching network, otherwise, it would be impossible to transmit or receive such packet. A packet cannot be transmitted without using some address. For example, one cannot transmit a parcel/a letter/mail without writing the destination address on the envelope. Similarly, Berken disclose the header or bus control information in the packet which is used to route/forward this particular packet to the network. **To show this well known fact, examiner recites Richter.**

Richter teaches wherein the digital voice data packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see col. 6, line 60 to col. 7, line 20) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see col. 5, line 36-66; col. 6, line 44-56).

In view of the above, it is clear that the combined system of Berken and Richter discloses the broadly claimed invention.

In response to applicant argument, examiner has clearly cited the specific drawing elements and/or lines of text from Berken and explain each assertion that maps to applicant broadly claimed invention in previous office action, and more explanation set forth above. Thus, there is no need for examiner to recite further the specific drawing elements and/or lines of text from Berken.

Regarding claims 22-59, the applicant argued that, "...require a substantial reconstruction and redesign of the elements shown in Berken as well as a change in the basic principle under which the Berken construction was designed to operate...which is not sufficient to render applicant claims obvious..." in page 23-26.

In response to applicant's argument that it is not obvious, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In this case, examiner is using the well known teaching of Richter to

provide Berken, not bodily incorporation Richter's system into Berken as erroneously argued by the applicant.

In response to applicant's argument, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

In response to applicant's argument, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Berken and well established teaching in art in the system of Berken, so that it would provide capability to the caller and callee to hear each other; see Richter col. 7, line 10-19, and it would also identify and locate the recipient of the voice data packet. Since there is clear motivation to combined two references, thus it is obvious.

Regarding claims 22-59, the applicant argued that, "...do not teach or suggest... wherein the digital voice data packets comprises information used for routing the digital voice data packets... to the extent that the office is asserting inherency. Applicant submits respectfully submit that the office has not met the requirement for such assertion... Weaver and

Richter alone or in-combination do not render the applicant claims unpatentable... ” see pages 28-30.

In response to applicant's argument, the examiner respectfully disagrees with the argument.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, the rejection is based on the combination of Weaver and Richter as set forth below.

Weaver discloses wherein the digital voice data packets comprises information used for routing the digital voice data packets (see FIG. 3,4,9; **voice packets comprise control/signaling information for routing voice data packets; see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65; FIG. 1, discloses the digital voice packets are being routed over the network. FIG. 3, PCM signaling/control information which is used for routing the digital voice packets. FIG. 4, PCM signaling/control information (PCM 290,292) used for routing the digital voice packets (Vocoded packets 294); see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65).**

Richter teaches wherein the digital voice packets comprise destination information used for routing (see FIG. 6, **destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see col. 6, line 60 to col. 7, line 20)** the digital voice packets through the communication network (see FIG. 5, **for routing voice packets over the network between two callers; see col. 5, line 36-66; col. 6, line 44-56).**

In view of the above, it is clear the combined system of Weaver and Richter discloses the broadly claimed invention.

In response to applicant argument, sending packet over the network is similar to sending the letter/mail over the post office. One must put the destination address on the envelope so that the post office can route the letter/mail over the network of houses/locations. Similarly, when routing the packet over the network, one must use destination address/number/information to route. Without the destination address/information, the packet or mail can not be routed. Thus, examiner is using the word "must" or in other word "inherency" since this essential limitation must be present, and this fact is well known in the art.

In view of the above, it is clear that examiner has provided the obviousness for combination of Weaver and Richter.

In response to all applicant arguments, all responses to the arguments in previous actions are here by incorporated, and they will not be repeated in this action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 22,25,26,28,29,32-34,36,39,40,41,47,50, and 57-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken (WO 91/08629) in view of Richter (US006104706A).

Regarding Claims 22, 28, 29, 36 and 47, Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice and data communication; see page 4, line 6-9) comprising:

conversion circuitry (see FIG. 1C, phone interface 209) for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5);

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data to digital voice packets; see page 6, line 5-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG. 1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); and

a transceiver circuit for wireless transmission and wireless reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) according to a wireless communication protocol of the digital voice data packets (FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by

utilizing packet protocol/practice/procedure/rules), wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN).

Berken does not explicitly disclose “destination”.

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular, Richter teaches wherein the digital voice data packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see col. 6, line 60 to col. 7, line 20) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see col. 5, line 36-66; col. 6, line 44-56).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Berken and well established teaching in art in the system of Berken, so that it would provide capability to the caller and callee to hear each other; see Richter col. 7, line 10-19, and it would also identify and locate the recipient of the voice data packet.

Regarding Claims 25, 33,40,57,58 and 59, Berken disclose a frequency hopping spread spectrum technique (see page 11, line 20-31; frequency hopping system of spread spectrum coding).

Regarding Claims 26, 34, and 41, Berken disclose a direct sequence spread spectrum technique (see page 11, line 20-31; direct sequence spread spectrum coding).

Regarding Claims 32,39,50, Berken discloses conversion circuitry for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets for radio transmission; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts digitized voice packets received from radio interface back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5).

4. Claims 43 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Harrison (US 5,796,727).

Regarding Claim 43, Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice communication; see page 4, line 6-9) comprising:

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data to digital voice packets; see page 6, line 6-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of

received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG. 1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN);

a transceiver circuit for wireless transmission and wireless reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) according to a wireless communication protocol of the digital voice data packets (FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by utilizing packet protocol/practice/procedure/rules).

Berken does not explicitly disclose "destination" and "a media access controller for controlling operation".

However, Harrison teaches wherein the digital voice packets (see col. 4, line 45-49; 65 to col. 5, line 7; packets of voice data) comprise destination information used for routing the outgoing digital voice packets (see FIG. 5; MS adding destination address into packet for routing through network (see FIG. 1); see col. 6, line 5-12; see col. 7, line 35 to col. 8, line 15; see col.12, line 39 to col. 13, line 11); a media access controller (see col. 5, line 25-31; MAC) for

controlling the operation of the transceiver to transmit and receive information according to a wireless communication protocol (see col. 12, line 39-61; MAC controls/process transmit and receive information according to IEEE wireless protocol).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide “destination information and MAC”, as taught by Harrison in the system of Berken, so that it would ensure to establish and route the packets of voice data to destination end user, provide various classes of data communication services as well as voices services, and provide registration and channel/bandwidth allocation; see Harrison col. 3, line 22-26; see col. 4, line 50-55; see col. 7, line 35-55.

Regarding Claim 46, Berken discloses conversion circuitry for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets for radio transmission; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts digitized voice packets received from radio interface back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5).

5. Claim 27,35,42,51 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Richter, and further in view of Weaver (US005956673A).

Regarding Claim 51, Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice communication; see page 4, line 6-9) comprising:

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data to digital voice packets; see page 6, line 6-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), wherein the digital voice data packets comprises destination information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises routing/forwarding information through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises routing/forwarding information through PSTN, Ethernet LAN, or Token Ring LAN), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG. 1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); and

a radio for wireless transmission and reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) of digital voice data packets (FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by utilizing packet protocol/practice/procedure/rules) and

a processor (see FIG. 1C, processor 215) for controlling the operation of the radio according to a communication protocol (see FIG. 1A, controls/manage a radio transmission according to a radio protocol (i.e. TDMA); see page 10, line 23-33 for voice packet in PSTN or

data packet in Ethernet LAN, or Token Ring LAN; see page 6, line 5 to page 8, line 4) that accommodates a plurality of bandwidth (see page 10, line 4 to col. 11, line 15; radio protocol provides different bandwidth for different services/data type).

Berken does not explicitly disclose “destination”.

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular, Richter teaches wherein the digital voice data packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see col. 6, line 60 to col. 7, line 20) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see col. 5, line 36-66; col. 6, line 44-56).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Berken and well established teaching in art in the system of Berken, so that it would provide capability to the caller and callee to hear each other; see Richter col. 7, line 10-19, and it would also identify and locate the recipient of the voice data packet.

Neither Berken nor Richter explicitly discloses “data rates including at least a standard data rate and a higher data rate”.

Weaver discloses a processor (see FIG. 1, Encoder 180) for controlling the operation of the radio according to a communication protocol that accommodates a plurality of data rates (see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at

least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide data rates including at least a standard data rate and a higher data rate, as taught by Weaver in the combined system of Berken and Richter, so that it would provide avoid the disadvantage of tandem vocoding; see Weaver col. 1, line 60-67.

Regarding Claims 27,35,42, Berken discloses wireless transmission and reception of digital voice data packets/transceiver utilizes a communication protocol (see FIG. 1A, controls/manage a radio transmission according to a radio protocol (i.e. TDMA); see page 10, line 23-33 for voice packet in PSTN or data packet in Ethernet LAN, or Token Ring LAN; see page 6, line 5 to page 8, line 4) that accommodates a plurality of bandwidth (see page 10, line 4 to col. 11, line 15; radio protocol provides different bandwidth for different services/data type).

Neither Berken nor Richter explicitly discloses “data rates including at least a standard data rate and a higher data rate”.

However, Weaver discloses a processor (see FIG. 1, Encoder 180) for controlling the operation of the radio according to a communication protocol that accommodates a plurality of data rates (see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide data rates including at least a standard data rate and a higher

data rate, as taught by Weaver in the combined system of Berken and Richter, so that it would provide avoid the disadvantage of tandem vocoding; see Weaver col. 1, line 60-67.

Regarding Claim 54, Berken discloses conversion circuitry for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets for radio transmission; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts digitized voice packets received from radio interface back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5).

6. Claims 23,24,30,31,37,38,48,49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Richter, and further in view of Perkins (US005159592A).

Regarding Claims 23, 24,30,31,37,38,48,49, neither Berken nor Richter explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the system of Berken, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

7. Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Harrison, and further in view of Perkins (US005159592A).

Regarding Claims 44 and 45, neither Berken nor Harrison explicitly disclose an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of Berken and Harrison, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

8. Claims 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Richter and Weaver, and further in view of Perkins (US005159592A).

Regarding Claims 52 and 53, neither Berken, Richter nor Weaver explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of Berken, Richter and Weaver, so that it would provide wireless migration users to a network

operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

9. Claims 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken and Richter, and further in view of Cripps (US005838730A).

Regarding Claims 55 and 56, Berken disclose a frequency hopping spread spectrum technique (see page 11, line 20-31; frequency hopping system of spread spectrum coding).

Berken does not explicitly disclose a frequency of approximately 2.4 gigahertz.

However, using 2.4 GHz frequency hopping is well known in the art as defined by FCC. In particular, Cripps discloses wherein the wireless packet network communicates at a frequency of approximately 2.4 gigahertz (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide 2.4 GHz, as taught by Cripps, in the combined system of Berken and Richter, so that it would provide a transmitter/receiver in accordance with FCC rules for 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

10. Claims 60, 61, 62, and 68-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Hutton (US006108704A), and further in view of Reimer (U.S. 4,704,696).

Regarding Claim 60, Berken discloses one or more circuits for use in a handheld communication device supporting the exchange of voice over a communication network (see

FIG. 1A, C, circuits/modules/components of wireless user device for voice communication in a network; see page 4, line 6-9), the one or more circuits comprising:

at least one interface to circuitry for transmitting and receiving over a radio frequency channel (see FIG. 1A, C, Radio interface 211 circuitry/module for both transmitting and receiving over an RF channel 107; see page 6, line 14-20; page 7, line 25-32), packets comprising packetized digital voice data packetized according to a packet protocol (see FIG. 1C, packets comprises packetized/converted voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20);

at least one processor (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) operably coupled to the at least one interface (see FIG. 1C, couples to radio interface 211), the at least one processor operating to, at least,

convert analog voice signals at a first user location (see FIG. 1A, first User device; see FIG. 5, first user module UM1; see page 9, line 28-33) to first digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice data for packetizing; see page 6, line 16-20);

packetize the first digital voice data according to the packet protocol to produce first digital voice data packets (see FIG. 1C, phone interface 209 converts/packetize digital voice data into voice packets; see page 6, line 16-20), wherein the first digital voice data packets comprise information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the first digital voice data packets through the communication network (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring

LAN; and/or a packet header of the voice time slot comprises information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN);

wirelessly transmit, in accordance with a wireless communication protocol, the first digital voice data packets (see FIG. 1A,C, see page 6, line 14-20; the user module 103 transmits voice packets over radio channel 107 in accordance with radio protocol/practice/procedure/rule);

wirelessly receive, in accordance with the wireless communication protocol, second digital voice data packets (see FIG. 1A,C, see page 6, line 14-20; the user module 103 received voice packets from RF channel 107 in accordance with a radio protocol/practice/procedure/rule);

depacketize the second digital voice data packets to produce second digital voice data (see FIG. 1C, phone interface 209 depacketizes/converts digitized voice packets back into digitized voice data for the telephone 127; see page 5, line 28 to page 6, line 5); and

convert the second digital voice data to analog voice signals at the location of the first user (see FIG. 1C, phone interface 209 converts digitized voice data back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5).

Berken does not explicitly disclose “destination and to a second user”.

However, a user device sending voice packet to another user over the network is well known in the art. In particular, Hutton teaches the first digital voice data packets (see col. 3, line 55-61; see col. 4, line 19-25,65 to col. 5, line 20; see col. 8, line 20-26; IP packet with compressed voice/audio data) comprise destination information (see FIG. 5-6, destination/callee IP address or phone number of second processing unit 22) used for routing the first digital voice data packets (see FIG. 3-4, destination IP address is used for routing the compressed audio data IP packets) through the communication network (see FIG. 3-4, routing through Internet 24) to a

second user (see FIG. 3-4, to the remote user/callee user device at second processing unit 22); see col. 5, line 1-65; see col. 7, line 10-35; see col. 8, line 15-45; see col. 10, line 25-60).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination and a second user, as taught by Hutton in the system of Berken, so that it would provide exchanging realtime voice/video IP packet with IP address between two end units via Internet; see Hutton col. 1, line 50-65; also by utilization destination information, it enable the caller to route the voice packets to the callee.

Neither Berken nor Hutton explicitly discloses the first digital voice data is “not transmission when representative of audio signals below a predetermined threshold level”.

However, Reimer discloses the first digital voice data is not packetized for transmission when representative of audio signals below a predetermined threshold level (see FIG. 5, Steeps 52,54,55,58; speech digital data is not framed/packetized for transmission by waiting when speech signal is lower than predetermined threshold; see 6, line 10-32).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide “not transmission when representative of audio signals below a predetermined threshold level” as taught by Reimer, in the combined system of Berken and Hutton, so that it would provide capability to detect non-zero zero-crossing frames as suggested by Reimer; see Reimer col. 6, line 10-30.

Regarding Claims 61 and 62, Hutton discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 3, line 55-60; col. 2, line 60-67; see col. 5, line 1-10; utilizing TCP/IP in wireless network).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Hutton in the system of Berken, so that it would provide exchanging realtime voice/video IP packet with IP address between two end units via Internet; see Hutton col. 1, line 50-65.

Regarding Claim 68, Berken disclose a frequency hopping spread spectrum technique (see page 11, line 20-31; frequency hopping system of spread spectrum coding).

Regarding Claim 69, Berken disclose a direct sequence spread spectrum technique (see page 11, line 20-31; direct sequence spread spectrum coding).

Regarding Claim 70, Berken disclose wherein the at least one processor (see FIG. 1A, C; a combined system of processor 215, switch 213, phone 209) is further operable to cause routing of digital voice data packets over a wired network (see page 9, line 1-10; see page 10, line 17-30; the combined system of 215, 213 and 209 routes/forwards voice packets over PSTN, Ethernet LAN, or Token Ring LAN).

Regarding Claim 71, Berken disclose wherein the routing of a call is selected by the first user (see FIG. 1A,C; a user enters/selects (from user input terminals 169,165 or 127) destination address/number (i.e. the routing of a call) in order to establish the call/connection; see page 9, line 1-10; see page 10, line 17-30).

Regarding Claim 72, Berken disclose the wired network comprises a packet network (see FIG. 1A, see page 9, line 1-10; see page 10, line 17-30; Ethernet LAN, or Token Ring LAN).

Regarding Claims 73, Berken discloses the wired network is a conventional switched telephone network (see FIG. 1A, PSTN 151; see page 9, line 1-10; see page 10, line 17-30).

11. Claims 63-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Hutton, and further in view of Lewen (US005341374A).

Regarding Claim 63, the combine system of Berken and Hutton discloses wherein the at least one processor received digital voice data and conversion of digital voice data as set forth above in claim 60.

Neither Berken nor Hutton explicitly discloses queues received data and delays conversion of queued data for an adjustable period of time.

However, Lewen teaches queuing (see FIG. 4, queuing/storing/collecting common memory 80) received digital voice data (see FIG. 2, collect received samples 120; see col. 14, line 44-49) and delays conversion of queued digital voice data for an adjustable period of time (see FIG. 2, delay time for storing/collecting voice samples in the memory before packetizing is adjusted between Tw (walktime) up to Tbfr (buffer storage time)); see col. 15, line 5-9,15-30.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to queue received data and delays conversion of queued data for an adjustable period of time, as taught by Lewen in the combined system of Berken and Hutton, so that it would provision a communication system which effectively provides integrated voice, data and video communication and also provide real time reception of voice communication; see Lewen col. 2, line 50-62.

Regarding Claim 64, Lewen further discloses adjusts the period of time based upon a network propagation delay (see col. 13, line 56-66; see col. 14, line 22-39; see col. 15, line 5-9,15-30; adjusting delay time according Tw (propagation delay)). Therefore, it would have been

obvious to one having ordinary skill in the art at the time the invention was made to adjust the period of time based upon a network propagation delay, as taught by Lewen in the combined system of Berken and Hutton, for the same motivation as set forth above in claim 63.

Regarding Claim 65, Lewen further discloses adjustable period of time using a packet sent to the communication device in response to a packet sent by the communication device (see col. 13, line 56-66; see col. 14, line 22-39; see col. 15, line 5-9, 15-30; adjusting delay time according T_w (propagation delay), which is a time required for a signal bit of a frame/packet to travel from transmitting node to receive node). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide adjustable period of time using a packet sent to the communication device in response to a packet sent by the communication device, as taught by Lewen in the combined system of Berken and Hutton, for the same motivation as set forth above in claim 63.

12. Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Hutton and Lewen, and further in view of McKee (US005477531A).

Regarding Claim 80, neither Berken, Hutton nor Lewen explicitly disclose a test packet. However, McKee discloses determining propagation delay or queuing delay by utilizing in response to test packet sent by the communication device (see FIG. 2, test packet; see col. 1, line 60 to col. 2, line 60).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a test packet, as taught by McKee, in the combined system of

Berken, Hutton and Lewen, so that it would provide to determine/test propagation delay or queuing delay; see McKee abstract col. 2, line 20-32.

13. Claim 67 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Hutton, and further in view of Cripps (US005838730A).

Regarding Claim 67, Berken disclose a frequency hopping spread spectrum technique (see page 11, line 20-31; frequency hopping system of spread spectrum coding).

Berken does not explicitly disclose a frequency of approximately 2.4 gigahertz. However, using 2.4 GHz frequency hopping is well known in the art as defined by FCC. In particular, Cripps discloses wherein the wireless packet network communicates at a frequency of approximately 2.4 gigahertz (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide 2.4 GHz, as taught by Cripps, in the combined system of Berken and Hutton, so that it would provide a transmitter/receiver in accordance with FCC rules for 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

Original Rejection

14. Claims 22,27-29,32,35,36,39,42,47,50,51 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver (US005956673A) in view of Richter (US006104706A).

Regarding Claims 22,28,29,36 and 47, Weaver discloses a system (see FIG. 2, Remote unit 10) for processing voice for communication (see FIG. 1, remote vocoder 15) over a network (see FIG. 2, Wireless network 20) comprising:

conversion circuitry (see FIG. 1, Encoder 180 and Decoder 90) for converting analog voice signals to digital voice data (see FIG. 1, Encoder 180 performs A/D conversion) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1, Decoder 90 performs D/A conversion; see col. 3, line 25-40; col. 4, line 40-59);

a processing circuit (see FIG. 1, Encoder 180 and Decoder 90) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1, Encoder 180 performs packetizing) and for managing the depacketization of digital voice data (see FIG. 1, Decoder 90 decodes packets into digital voice), the processing circuit packetizing the digital voice data according to a packet protocol (see col. 3, line 20-40; col. 4, line 20-39, 40-67; see col. 5, line 34-67; packetizing according to a packet protocol); and

a transceiver circuit (see FIG. 2, Transceiver in a remote unit 10) for wireless transmission and wireless reception according to a wireless communication protocol of the digital voice data packets (see col. 4, line 40-67; transmitting over wireless link according to wireless protocol), wherein the digital voice data packets comprises information used for routing the digital voice data packets (see FIG. 3,4,9; voice packets comprise control/signaling information for routing voice data packets; see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65; FIG. 1, discloses the digital voice packets are being routed over the network. FIG. 3, PCM signaling/control information which is used for routing the digital voice packets. FIG. 4, PCM signaling/control information (PCM 290,292) used for routing the digital voice packets (Vocoded packets 294); see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65).

Weaver does not explicitly disclose “destination information”.

However, it is well known in the art when forming and routing packets/frames over the network to remote end/destination, one must use destination address/number/information to route. In particular, Richter teaches wherein the digital voice packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see col. 6, line 60 to col. 7, line 20) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see col. 5, line 36-66; col. 6, line 44-56).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Richter and well established teaching in art in the system of Weaver, so that it would provide capability to the caller and callee to hear each other; see Richter col. 7, line 10-19, and it would also identify and locate the recipient of the voice data packet.

Regarding Claim 51, Weaver discloses a system (see FIG. 2, Remote unit 10) for processing voice for communication (see FIG. 1, remote vocoder 15) over a network (see FIG. 2, Wireless network 20) comprising:

a processing circuit (see FIG. 1, Encoder 180 and Decoder 90) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1, Encoder 180 performs packetizing) and for managing the depacketization of digital voice data (see FIG. 1, Decoder 90 decodes packets into digital voice), wherein the digital voice data packets comprises information used for routing the digital voice data packets (see FIG. 3,4,9; voice packets comprise control/signaling information; see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65; FIG. 1, discloses the digital voice packets are being routed over the network. FIG. 3,

PCM signaling/control information which is used for routing the digital voice packets. FIG. 4, PCM signaling/control information (PCM 290,292) used for routing the digital voice packets (Vocoded packets 294); see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65), the processing circuit packetizing the digital voice data according to a packet protocol (see col. 3, line 20-40; col. 4, line 20-39, 40-67; see col. 5, line 34-67; packetizing according to a packet protocol); and

a radio for wireless transmission and reception of digital voice data packets (see FIG. 2, Radio Transceiver in a remote unit 10; see col. 4, line 40-67) and

a processor (see FIG. 1, Encoder 180) for controlling the operation of the radio according to a communication protocol that accommodates a plurality of data rates (see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Weaver does not explicitly disclose destination information.

However, it is well known in the art when forming and routing packets/frames over the network to remote end/destination, one must use destination address/number/information to route. In particular, Richter teaches wherein the digital voice packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see col. 6, line 60 to col. 7, line 20) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see col. 5, line 36-66; col. 6, line 44-56).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Richter and well established teaching in art in the system of Weaver, so that it would provide capability to the caller and callee to hear each other; see Richter col. 7, line 10-19, and it would also identify and locate the recipient of the voice data packet.

Regarding Claims 27,35,42, Weaver discloses wireless transmission and reception of digital voice data packets/transceiver utilizes a communication protocol that accommodates a plurality of data rates (see FIG. 1, Encoder 180; see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Regarding Claims 32,39,50,54, Weaver discloses conversion circuitry (see FIG. 1, Encoder 180 and Decoder 90) for converting analog voice signals to digital voice data (see FIG. 1, Encoder 180 performs A/D conversion) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1, Decoder 90 performs D/A conversion; see col. 3, line 25-40; col. 4, line 40-59).

15. Claims 23,24,30,31,37,38,48,49,52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Richter, as applied to claims 22,29,36,47,51 above, and further in view of Perkins (US005159592A).

Regarding Claims 23, 24, 30,31,37,38,48,49,52, and 53, neither Weaver nor Richter explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of Weaver and Richter, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

16. Claims 43 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver (US005956673A) in view of Harrison (US 5,796,727).

Regarding Claim 43, Weaver discloses a system (see FIG. 2, Remote unit 10) for processing voice for communication (see FIG. 1, remote vocoder 15) over a network (see FIG. 2, Wireless network 20) comprising:

a processing circuit (see FIG. 1, Encoder 180 and Decoder 90) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1, Encoder 180 performs packetizing) and for managing the depacketization of digital voice data (see FIG. 1, Decoder 90 decodes packets into digital voice), the processing circuit packetizing the digital voice data according to a packet protocol (see col. 3, line 20-40; col. 4, line 20-39, 40-67; see col. 5, line 34-67; packetizing according to a packet protocol); wherein the digital voice data packets comprises information used for routing the digital voice data packets (see FIG. 3,4,9;

voice packets comprise control/signaling information; see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65; FIG. 1, discloses the digital voice packets are being routed over the network. FIG. 3, PCM signaling/control information which is used for routing the digital voice packets. FIG. 4, PCM signaling/control information (PCM 290,292) used for routing the digital voice packets (Vocoded packets 294); see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65);

a transceiver circuit (see FIG. 2, Transceiver in a remote unit 10) for wireless transmission and wireless reception according to a wireless communication protocol of the digital voice data packets (see col. 4, line 40-67; transmitting over wireless link according to wireless protocol).

Weaver does not explicitly disclose “destination information and a media access controller for controlling operation”.

However, Harrison teaches wherein the digital voice packets (see col. 4, line 45-49; 65 to col. 5, line 7; packets of voice data) comprise destination information used for routing the outgoing digital voice packets (see FIG. 5; MS adding destination address into packet for routing through network (see FIG. 1); see col. 6, line 5-12; see col. 7, line 35 to col. 8, line 15; see col.12, line 39 to col. 13, line 11);

a media access controller (see col. 5, line 25-31; MAC) for controlling the operation of the transceiver to transmit and receive information according to a wireless communication protocol (see col. 12, line 39-61; MAC controls/process transmit and receive information according to IEEE wireless protocol). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination information and

MAC, as taught by Harrison in the system of Weaver, so that it would ensure to establish and route the packets of voice data to destination end user, provide various classes of data communication services as well as voices services, and provide registration and channel/bandwidth allocation; see Harrison col. 3, line 22-26; see col. 4, line 50-55; see col. 7, line 35-55.

Regarding Claim 46, Weaver discloses conversion circuitry (see FIG. 1, Encoder 180 and Decoder 90) for converting analog voice signals to digital voice data (see FIG. 1, Encoder 180 performs A/D conversion) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1, Decoder 90 performs D/A conversion; see col. 3, line 25-40; col. 4, line 40-59).

17. Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Harrison, as applied to claim 43 above, and further in view of Perkins (US005159592A).

Regarding Claims 44 and 45, neither Weaver nor Harrison explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of

Weaver and Harrison, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

18. Claims 25,33,40, and 55-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Richter, as applied to claims 22,29,36,47 above, and further in view of Cripps (US005838730A).

Regarding Claims 25, 33,40,57,58 and 59, neither Weaver nor Richter explicitly discloses a frequency hopping spread spectrum protocol. However, using frequency hopping spread spectrum protocol is well known in the art. In particular, However, Cripps discloses wherein the wireless packet network communicates frequency hopping spectrum protocol (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide frequency hopping spread spectrum protocol with 2.4 GHz, as taught by Cripps, in the combined system of Weaver and Richter, so that it would provide a transmitter/receiver in accordance with FCC rules to support frequency hopping spread spectrum 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

Regarding Claims 55 and 56, neither Weaver nor Richter explicitly discloses a radio comprises a 2.4 gigahertz, wherein the radio operates in accordance with a frequency hopping spread spectrum protocol. However, using 2.4 GHz frequency hopping is well known in the art as defined by FCC. In particular, Cripps discloses disclose a radio comprises a 2.4 gigahertz, wherein the radio operates in accordance with a frequency hopping spread spectrum protocol (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide 2.4 GHz frequency hopping protocol, as taught by Cripps, in the combined system of Weaver and Richter, so that it would provide a transmitter/receiver in accordance with FCC rules for 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

19. Claims 26,34, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Richter, as applied to claims 22,32,52 above, and further in view of Honing (US005481533A).

Regarding Claims 26, 34, and 41, neither Weaver nor Richter explicitly discloses a direct sequence spread spectrum technique. However, using direct sequence spread spectrum technique is well known in the art. In particular, Honing discloses wherein the wireless packet network communicates using a direct sequence spread spectrum technique (abstract; see col. 2, line 34-40).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide direct sequence spread spectrum technique, as taught by Honing, in the combined system of Weaver and Richter, so that it would suppress interference; see Honing col. 2, line 38, line 38-40.

20. Claims 22, 28, 29, 36 and 47 rejected under 35 U.S.C. 103(a) as being unpatentable over Berken (WO 91/08629) in view of Shachar (U.S. 5,764,736).

Regarding Claims 22, 28, 29, 36 and 47, Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice and data communication; see page 4, line 6-9) comprising:

conversion circuitry (see FIG. 1C, phone interface 209) for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5);

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data to digital voice packets; see page 6, line 5-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG. 1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); and

a transceiver circuit for wireless transmission and wireless reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) according to a wireless communication protocol of the digital voice data packets (FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by

utilizing packet protocol/practice/procedure/rules), wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN).

Berken does not explicitly disclose “destination”.

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular,

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular, Shachar teaches wherein digital voice packets (see col. 8, line 32-39; voice packet) comprise destination information used for routing the digital voice packets through the communication network (see col. 12, line 1-20, 50-57; adding a service tag to the voice packet, the service tag includes the phone number to be call (i.e. destination phone information/number) for routing/transmitting/sending to the network).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide “destination”, as taught by Shachar and well established teaching in art in the system of Berken, so that it would provide simultaneous establishing of voice communication; see Shachar col. 5, line 15-30, col. 6, line 42-55.

21. Claim 22,25,26,28,29,32-34,36,39,40,41,47,50, and 57-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken (WO 91/08629) in view of Richter'979 (WO 94/29979).

Regarding Claims 22, 28, 29, 36 and 47, Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice and data communication; see page 4, line 6-9) comprising:

conversion circuitry (see FIG. 1C, phone interface 209) for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5);

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data to digital voice packets; see page 6, line 5-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG. 1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); and

a transceiver circuit for wireless transmission and wireless reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) according to a wireless communication protocol of the digital voice data packets (FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by utilizing packet protocol/practice/procedure/rules), wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN).

Berken does not explicitly disclose “destination”.

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular, Richter'979 teaches wherein the digital voice data packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see page 15, paragraph 3 to page 17, paragraph 1) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see page 13, paragraph 1-2; see page 14, paragraph 1; see page 15, paragraph 3 to page 16, paragraph 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Berken and well established teaching

in art in the system of Berken, so that it would provide capability to the caller and callee to hear each other; see Richter'979 page 17, paragraph 1, and it would also identify and locate the recipient of the voice data packet.

Regarding Claims 25, 33,40,57,58 and 59, Berken disclose a frequency hopping spread spectrum technique (see page 11, line 20-31; frequency hoping system of spread spectrum coding).

Regarding Claims 26, 34, and 41, Berken disclose a direct sequence spread spectrum technique (see page 11, line 20-31; direct sequence spread spectrum coding).

Regarding Claims 32,39,50, Berken discloses conversion circuitry for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets for radio transmission; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts digitized voice packets received from radio interface back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5).

22. Claim 27,35,42,51 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Richter'979, and further in view of Weaver (US005956673A).

Regarding Claim 51, Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice communication; see page 4, line 6-9) comprising:

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data

packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data to digital voice packets; see page 6, line 6-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), wherein the digital voice data packets comprises destination information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises routing/forwarding information through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises routing/forwarding information through PSTN, Ethernet LAN, or Token Ring LAN), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG. 1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); and

a radio for wireless transmission and reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) of digital voice data packets (FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by utilizing packet protocol/practice/procedure/rules) and

a processor (see FIG. 1C, processor 215) for controlling the operation of the radio according to a communication protocol (see FIG. 1A, controls/manage a radio transmission according to a radio protocol (i.e. TDMA); see page 10, line 23-33 for voice packet in PSTN or data packet in Ethernet LAN, or Token Ring LAN; see page 6, line 5 to page 8, line 4) that

accommodates a plurality of bandwidth (see page 10, line 4 to col. 11, line 15; radio protocol provides different bandwidth for different services/data type).

Berken does not explicitly disclose “destination”.

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular, Richter'979 teaches wherein the digital voice data packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see page 15, paragraph 3 to page 17, paragraph 1) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see page 13, paragraph 1-2 to page 14, paragraph 1; see page 15, paragraph 3 to page 16, paragraph 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Berken and well established teaching in art in the system of Berken, so that it would provide capability to the caller and callee to hear each other; see Richter'979 page 17, paragraph 1, and it would also identify and locate the recipient of the voice data packet.

Neither Berken nor Richter'979 explicitly discloses “data rates including at least a standard data rate and a higher data rate”.

Weaver discloses a processor (see FIG. 1, Encoder 180) for controlling the operation of the radio according to a communication protocol that accommodates a plurality of data rates (see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at

least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide data rates including at least a standard data rate and a higher data rate, as taught by Weaver in the combined system of Berken and Richter'979, so that it would provide avoid the disadvantage of tandem vocoding; see Weaver col. 1, line 60-67.

Regarding Claims 27, 35, 42, Berken discloses wireless transmission and reception of digital voice data packets/transceiver utilizes a communication protocol (see FIG. 1A, controls/manage a radio transmission according to a radio protocol (i.e. TDMA); see page 10, line 23-33 for voice packet in PSTN or data packet in Ethernet LAN, or Token Ring LAN; see page 6, line 5 to page 8, line 4) that accommodates a plurality of bandwidth (see page 10, line 4 to col. 11, line 15; radio protocol provides different bandwidth for different services/data type).

Neither Berken nor Richter'979 explicitly discloses “data rates including at least a standard data rate and a higher data rate”.

However, Weaver discloses a processor (see FIG. 1, Encoder 180) for controlling the operation of the radio according to a communication protocol that accommodates a plurality of data rates (see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide data rates including at least a standard data rate and a higher

data rate, as taught by Weaver in the combined system of Berken and Richter'979, so that it would provide avoid the disadvantage of tandem vocoding; see Weaver col. 1, line 60-67.

Regarding Claim 54, Berken discloses conversion circuitry for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets for radio transmission; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts digitized voice packets received from radio interface back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5).

23. Claims 23,24,30,31,37,38,48,49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Richter'979, and further in view of Perkins (US005159592A).

Regarding Claims 23, 24,30,31,37,38,48,49, neither Berken nor Richter'979 explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of Berken and Richter'979, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

24. Claims 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken in view of Richter'979 and Weaver, and further in view of Perkins (US005159592A).

Regarding Claims 52 and 53, neither Berken, Richter'979 nor Weaver explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP. However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of Berken, Richter'979 and Weaver, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

25. Claims 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berken and Richter'979, and further in view of Cripps (US005838730A).

Regarding Claims 55 and 56, Berken disclose a frequency hopping spread spectrum technique (see page 11, line 20-31; frequency hopping system of spread spectrum coding).

Berken does not explicitly disclose a frequency of approximately 2.4 gigahertz.

However, using 2.4 GHz frequency hopping is well known in the art as defined by FCC. In particular, Cripps discloses wherein the wireless packet network communicates at a frequency of approximately 2.4 gigahertz (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide 2.4 GHz, as taught by Cripps, in the combined system of Berken and Richter'979, so that it would provide a transmitter/receiver in accordance with FCC rules for 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

Original Rejection

26. Claims 22,27-29,32,35,36,39,42,47,50,51 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver (US005956673A) in view of Richter'979 (WO 94/29979).

Regarding Claims 22,28,29,36 and 47, Weaver discloses a system (see FIG. 2, Remote unit 10) for processing voice for communication (see FIG. 1, remote vocoder 15) over a network (see FIG. 2, Wireless network 20) comprising:

conversion circuitry (see FIG. 1, Encoder 180 and Decoder 90) for converting analog voice signals to digital voice data (see FIG. 1, Encoder 180 performs A/D conversion) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1, Decoder 90 performs D/A conversion; see col. 3, line 25-40; col. 4, line 40-59);

a processing circuit (see FIG. 1, Encoder 180 and Decoder 90) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1, Encoder 180 performs packetizing) and for managing the depacketization of digital voice data (see FIG. 1, Decoder 90 decodes packets into digital voice), the processing circuit packetizing the digital voice data according to a packet protocol (see col. 3, line 20-40; col. 4, line 20-39, 40-67; see col. 5, line 34-67; packetizing according to a packet protocol); and

a transceiver circuit (see FIG. 2, Transceiver in a remote unit 10) for wireless transmission and wireless reception according to a wireless communication protocol of the digital voice data packets (see col. 4, line 40-67; transmitting over wireless link according to wireless protocol), wherein the digital voice data packets comprises information used for routing the digital voice data packets (see FIG. 3,4,9; voice packets comprise control/signaling information for routing voice data packets; see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65).

Weaver does not explicitly disclose “destination information”.

However, it is well known in the art when forming and routing packets/frames over the network to remote end/destination, one must use destination address/number/information to route. In particular, Richter'979 teaches wherein the digital voice packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see page 15, paragraph 3 to page 17, paragraph 1) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see page 13, paragraph 1-2; see page 14, paragraph 1; see page 15, paragraph 3 to page 16, paragraph 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Richter'979 and well established teaching in art in the system of Weaver, so that it would provide capability to the caller and callee to hear each other; see Richter'979 page 17, paragraph 1, and it would also identify and locate the recipient of the voice data packet.

Regarding Claim 51, Weaver discloses a system (see FIG. 2, Remote unit 10) for processing voice for communication (see FIG. 1, remote vocoder 15) over a network (see FIG. 2, Wireless network 20) comprising:

a processing circuit (see FIG. 1, Encoder 180 and Decoder 90) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1, Encoder 180 performs packetizing) and for managing the depacketization of digital voice data (see FIG. 1, Decoder 90 decodes packets into digital voice), wherein the digital voice data packets comprises information used for routing the digital voice data packets (see FIG. 3,4,9; voice packets comprise control/signaling information; see col. 3, line 20-40; see col. 5, line 34-46; see col. 6, line 52-65), the processing circuit packetizing the digital voice data according to a packet protocol (see col. 3, line 20-40; col. 4, line 20-39, 40-67; see col. 5, line 34-67; packetizing according to a packet protocol); and

a radio for wireless transmission and reception of digital voice data packets (see FIG. 2, Radio Transceiver in a remote unit 10; see col. 4, line 40-67) and

a processor (see FIG. 1, Encoder 180) for controlling the operation of the radio according to a communication protocol that accommodates a plurality of data rates (see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Weaver does not explicitly disclose “destination” information.

However, it is well known in the art when forming and routing packets/frames over the network to remote end/destination, one must use destination address/number/information to

route. In particular, Richter'979 teaches wherein the digital voice packets comprise destination information used for routing (see FIG. 6, destination address 76, max destination count 74, active destination count 72, and destination count that used for routing; see page 15, paragraph 3 to page 17, paragraph 1) the digital voice packets through the communication network (see FIG. 5, for routing voice packets over the network between two callers; see page 13, paragraph 1-2; see page 14, paragraph 1; see page 15, paragraph 3 to page 16, paragraph 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide destination, as taught by Richter and well established teaching in art in the system of Weaver, so that it would provide capability to the caller and callee to hear each other; see Richter'979 page 17, paragraph 1, and it would also identify and locate the recipient of the voice data packet.

Regarding Claims 27, 35, 42, Weaver discloses wireless transmission and reception of digital voice data packets/transceiver utilizes a communication protocol that accommodates a plurality of data rates (see FIG. 1, Encoder 180; see col. 1, line 25-37; see col. 5, line 55-59; see col. 9, line 33-34; plurality of data rates) including at least a standard data rate and a higher data rate (see col. 1, line 25-37; see col. 6, line 13-25; see col. 9, line 33-35; low or less than full (i.e. half or quarter) data rate and full data rate).

Regarding Claims 32,39,50,54, Weaver discloses conversion circuitry (see FIG. 1, Encoder 180 and Decoder 90) for converting analog voice signals to digital voice data (see FIG. 1, Encoder 180 performs A/D conversion) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1, Decoder 90 performs D/A conversion; see col. 3, line 25-40; col. 4, line 40-59).

27. Claims 23,24,30,31,37,38,48,49,52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Richter'979, as applied to claims set forth above, and further in view of Perkins (US005159592A).

Regarding Claims 23, 24, 30,31,37,38,48,49,52, and 53, neither Weaver nor Richter'979 explicitly discloses an Internet Protocol (IP), wherein IP protocol is TCP/IP.

However, Perkins discloses wherein the wireless packet network uses an Internet Protocol (IP), wherein IP protocol is TCP/IP (see col. 4, line 10-20; see col. 7, line 35-56; col. 8, line 30-45; mobile unit 10 and access gateway utilizing TCP/IP).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide TCP/IP, as taught by Perkins, in the combined system of Weaver and Richter'979, so that it would provide wireless migration users to a network operating in accordance with the TCP/IP protocol; see Perkins col. 2, line 55-60; see col. 3, line 15-30.

28. Claims 25,33,40, and 55-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Richter'979, as applied to claims 22,29,36,47 above, and further in view of Cripps (US005838730A).

Regarding Claims 25, 33,40,57,58 and 59, neither Weaver nor Richter'979 explicitly discloses a frequency hopping spread spectrum protocol.

However, using frequency hopping spread spectrum protocol is well known in the art. In particular, Cripps discloses wherein the wireless packet network communicates frequency hopping spectrum protocol (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide frequency hopping spread spectrum protocol with 2.4 GHz, as taught by Cripps, in the combined system of Weaver and Richter'979, so that it would provide a transmitter/receiver in accordance with FCC rules to support frequency hopping spread spectrum 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

Regarding Claims 55 and 56, neither Weaver nor Richter'979 explicitly discloses a radio comprises a 2.4 gigahertz, wherein the radio operates in accordance with a frequency hopping spread spectrum protocol. However, using 2.4 GHz frequency hopping is well known in the art as defined by FCC. In particular, Cripps discloses disclose a radio comprises a 2.4 gigahertz, wherein the radio operates in accordance with a frequency hopping spread spectrum protocol (abstract; see col. 2, line 13-20; see col. 36, line 32-45; 2.4 GHz).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide 2.4 GHz frequency hopping protocol, as taught by Cripps, in the combined system of Weaver and Richter'979, so that it would provide a transmitter/receiver in accordance with FCC rules for 2.4 GHz ISM which is low cost and low power; see Cripps col. 2, line 15-32.

29. Claims 26,34, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weaver in view of Richter'979, as applied to claims 22,32,52 above, and further in view of Honing (US005481533A).

Regarding Claims 26, 34, and 41, neither Weaver nor Richter'979 explicitly discloses a direct sequence spread spectrum technique.

However, using direct sequence spread spectrum technique is well known in the art. In particular, Honing discloses wherein the wireless packet network communicates using a direct sequence spread spectrum technique (abstract; see col. 2, line 34-40).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide direct sequence spread spectrum technique, as taught by Honing, in the combined system of Weaver and Richter'979, so that it would suppress interference; see Honing col. 2, line 38, line 38-40.

30. Claims 22, 28, 29, 36 and 47 rejected under 35 U.S.C. 103(a) as being unpatentable over Berken (WO 91/08629) in view of Shachar (U.S. 5,764,736).

Regarding Claims 22, 28, 29, 36 and 47, Berken discloses a system for processing voice for communication over a network (see FIG. 1A, wireless telecommunication system for voice and data communication; see page 4, line 6-9) comprising:

conversion circuitry (see FIG. 1C, phone interface 209) for converting analog voice signals to digital voice data (see FIG. 1C, phone interface 209 converts sound/voice input from telephone 127 into digital voice packets; see page 6, line 16-20) and for converting digital voice data to analog voice signals for the reproduction of voice (see FIG. 1C, phone interface 209 converts received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5);

a processing circuit (see FIG. 1C, a combined system of processor 215, switch 213, phone 209) for managing the packetization of digital voice data to provide digital voice data packets (see FIG. 1C, a combined system 215,213,209 controls/manages converting of voice data

to digital voice packets; see page 6, line 5-20) and for managing the depacketization of digital voice data (see FIG. 1C, a combined system 215,213,209 controls/manages converting of received digitized voice packets back into analog/sound signals for the telephone 127; see page 5, line 28 to page 6, line 5), the processing circuit packetizing the digital voice data according to a packet protocol (see FIG. 1C, a combined system 215,213,209 converting voice data in accordance with packet protocol/rule for transmission; see page 6, line 16-20); and

a transceiver circuit for wireless transmission and wireless reception (see FIG. 1A, C, Radio interface 211 circuitry/module which perform both transmitter and receiver functionalities) according to a wireless communication protocol of the digital voice data packets (FIG. 1C, see page 6, line 14-20; radio interface 211 of a user module 103 communicates by utilizing packet protocol/practice/procedure/rules), wherein the digital voice data packets comprises information (see FIG. 3, control time slot of frame; and/or FIG. 4, packet header of the voice time slot) used for routing the digital voice data packets (see page 9, line 1-10; see page 10, line 17-30; control time slot of the transmit/receive frame comprises control information for routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN; and/or a packet header of the voice time slot comprises control information routing/forwarding through PSTN, Ethernet LAN, or Token Ring LAN).

Berken does not explicitly disclose “destination”.

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular,

However, voice packet comprising destination information for routing is so well known in the art so that it would identify and locate the recipient of the voice data packet. In particular,

Shachar teaches wherein digital voice packets (see col. 8, line 32-39; voice packet) comprise destination information used for routing the digital voice packets through the communication network (see col. 12, line 1-20, 50-57; adding a service tag to the voice packet, the service tag includes the phone number to be call (i.e. destination phone information/number) for routing/transmitting/sending to the network).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide “destination”, as taught by Shachar and well established teaching in art in the system of Berken, so that it would provide simultaneous establishing of voice communication; see Shachar col. 5, line 15-30, col. 6, line 42-55.

Conclusion

31. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to IAN N. MOORE whose telephone number is (571)272-3085. The examiner can normally be reached on 9:00 AM- 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derrick W. Ferris can be reached on 571-272-3123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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